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Goddard Space Flight Center

Inside Wallops

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High-Altitude Hurricane Study Could Save Lives And Money

With an aim to better understand and improve ground-based predictions of hurricanes, two specially equipped NASA aircraft soon will take to the skie collecting high-altitude information about Atlantic hurricanes and tropical storms.

Results from he Convection and Moisture Experiment (CAMEX) may increase warning time prior to huricanes and tropical storms and give scientists a better understanding of these dramatic weather phenomena. CAMEX will yield high-resolution spatial and temperature information on hurricane structure, dynamics and motion, leading to improved hurricane prediction. Results also will be used to validate existing measurements from the Tropical Rainfall Measuring Mission of hurricanes and tropical storms and to develop algorithms for future Earth science missions.

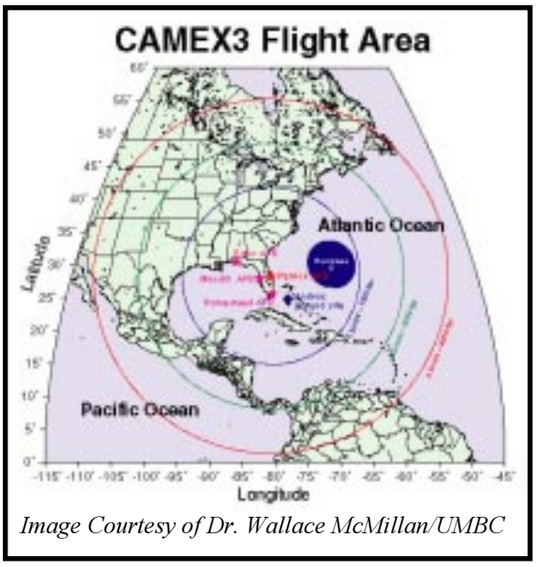


Image Courtesy of Dr. Wallace McMillan/UMBC

Led by the Atmospheric Dynamics and Remote Sensing program at NASA Headquarters, the experiment unites eight NASA centers, other weather researchers and the university community for a coordinated, multi-agency and -university Atlantic hurricane and tropical storm study.

"We only know what goes on in the bottom half of a hurricane, from sea level to 27,000 feet," said Robbie Hood of the Global Hydrology and Climate Center at Marshall Space Flight Center. "With all of the agencies and the university community working together, we now can learn about these storms from top to bottom and hopefully improve hurricane prediction."

When a hurricane or tropical storm erupts in the Atlantic, a Dryden Research Center DC-8, equipped with instruments to measure the storm's structure, environment and changes in intensity and tracking will fly into the storm at 35,000-40,000 feet.

At the same time, a specially equipped Dryden ER-2 will soar above the storm at 65,000 feet measuring the storm's structure and the surrounding atmosphere that steers the storm's movement.

On the ground, the storm research team will launch weather balloons and monitor land-based sensors to validate the high-altitude measurements taken by instruments aboard the planes.

A Wallops team, lead by Frank Schmidlin (Code 972) will be participating in the Upper Air Instrumentation Research Project (UAIRP) from Andros Island, Bahamas, during the eight-week CAMEX-3 measurement campaign. Approximately 20-24 balloons carrying radiosonde packages will be launched each week. These radiosondes are used to measure atmospheric pressure, temperature, relative humidity, and wind velocity and direction. The four-foot diameter balloons will fly to an altitude of approximately 100,000 feet.

These measurements will be performed to establish atmospheric conditions and trends prior to, during and after the aircraft flight missions. The Andros Island overflights consist of fly-bys and ascending and descending spirals by the NASA ER-2 and DC-8 aircraft.

In addition to providing Doppler radars on each research plane, NASA will bring state-of-the-art airborne instruments to measure moisture and wind fields around the hurricanes under observation.

NOAA flies a WP-3 "Orion", a four engine turboprop plane, into storms at altitudes below 27,000 feet. The Hurricane Hunters fly a WC-130 "Hercules", a four-engine turboprop aircraft, at 5,000-10,000 feet.

New Information From SOHO Increases Chances for Recovery

The dormant Solar and Heliospheric Observatory (SOHO) spacecraft has sent temperature and electrical data to ground controllers, information which could help in the satellite's recovery. The SOHO Recovery Team is working to recharge the spacecraft's batteries, which in turn will allow the team to assess the spacecraft's overall health and condition of the scientific instruments.

"This is the best news I've heard since we lost contact with SOHO," said Roger Bonnet, Director of Science for the European Space Agency (ESA), NASA's partner in the mission.

Following analysis of the expected onboard conditions commands were sent through the NASA Deep Space Network station at Goldstone, CA. These sequences were designed to divert the available solar array power into a partial charging of one of the onboard batteries.

After 10 hours of charging, the telemetry was commanded on and seven full sets of data about the onboard status were received, including information on temperatures and voltages for payload instruments. After one minute, ground controllers switched off the telemetry to preserve onboard resources.

Data on voltages and currents in individual units indicated one of the two batteries on board the spacecraft is almost fully charged. Attempts to recharge the second battery are underway.

Recovery activities are being directed by the ESA SOHO project team from the NASA Operation Center at Goddard. More information on SOHO, including mission status reports, is available on the Internet at the new ESA science website: **http://sohowww.nascom.nasa.gov/** or: **http://sci.esa.int**

Wallops Shorts……

The Wallops Fire Dept. responded to three calls, Aug. 3 to Aug. 8, from the Accomack County 911 requesting assistance with fire personnel and equipment responding and one call for emergency medical assistance.

Sounding Rocket Launch

A Terrier-Black Brant sounding rocket was successfully launched and recovered from White Sands Missile Range, NM on Aug. 15, 1998. The experiment was to provide non-dispersive spectroscopy of bright x-ray sources. Dr. Gordon Garmire, Penn State University was the principal investigator and Frank Lau, Code 810, was the payload manager.

Weather Summary

by Jim Buchanan, Meteorologist

Hot, humid and dry pretty well sums up the weather during July for the Wallops area.

Except for the five-day period from July 20 through 24, temperatures were very near normal. During this period, daytime highs averaged almost 94°.

On July 22 a record high temperature of 98° broke the old record of 94° set in 1978. The overnight low on the 22nd was only 80°. During July daytime highs averaged a normal 85° with low temperatures averaging 69°, just a little over average. The resulting overall average temperature of 76.9° is only .3° warmer than normal.

With only .82 inches of rainfall recorded, July was definitely a dry month. The most rainfall recorded during the month was .23 of an inch recorded on July 31. Rainfall totals were over three inches below average for July.

By comparison, July 1997 was almost as dry with only 1.12 inches of recorded rain until Tropical Storm Danny dropped an additional 2.24 inches. This year there were no storms to help with rainfall. The Atlantic hurricane season has remained quiet to this date.

September can still be a very active time for tropical storms. It also is a time for cooling down from summer's heat wave. The average high should drop below the 80° mark to a little above 77°.

The beginning of the month should see nighttime lows averaging 61°, lowering to readings in the mid to upper 50's by the end of the month.

Temperature extremes for September can cover a significant range. The record high is 96° set Sept. 11, 1983, and the record low is 40° set Sept. 30, 1970.

Although there has been no tropical storm activity, things can change rapidly. Be sure to stay prepared in the event a tropical storm or hurricane should form and head our way.

Also, school will start very soon, be especially watchful for school buses and children.

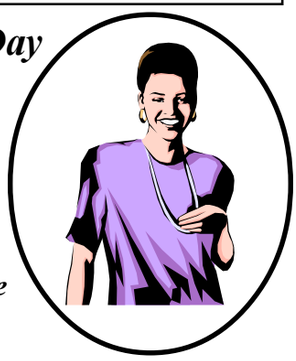
Wallops Aerobics Club

New eight week session
11:30 a.m. until noon every weekday
4:45 p.m. until 5:45 p.m. Monday, Wednesday and Friday.

$28 for new members
$20 for current members
or $2 per hour

For information or to sign up, call Donna Smith, x1346. Flextime and leave regulations apply.

Federal Women's Day
August 26



Schedule of Events

Morning coffee
8 to 9 a.m. in the cafeteria

Communications Management:
Effective Communication at Work and at Home
9 to 11 a.m., Bldg. E-2

Luncheon and Seminar
***The Woman of the 90's: Is She Really Ready for the 21st* Century?**
11:30 a.m. to 1 p.m., Bldg. E-2
Tickets -- $3 per person and are available in the Exchange or from Bev Hall, x1714.
Menu: Salad plate, dessert, tea

Living Harmoniously in a Crazy World
1:30 to 3:30 p.m., Bldg. E-2

Morning and afternoon seminars are open to all employees. A training request is required. The funding organization is 120. Code 800 training requests should be sent to Sherry Kleckner, Bldg. F-6. All other codes can fax their requests to Laura Potler at 66-1679; contracters should submit a letter from their supervisor on company letterhead to Laura Potler. The luncheon is by ticket only.

UPCOMING TRAINING

DATES: Sept. 21-25, 1998
8 a.m. to 4 p.m.

LOCATION: Building E-2

DESCRIPTION: LabVIEW I & II
(Each session will run in conjunction with one another; Five 8-hour sessions)

LabVIEW I progresses from LabVIEW fundamentals and the construction of simple VIs to building complete applications involving data acquisition, analysis and presentation. Participants will be able to: acquire analog waveforms using a DAQ board, store the waveforms from a GPIB instrument; plot acquired data on strip charts and graphs; save data in files that you can retrieve with a spreadsheet.

LabVIEW II extends your under-standing of LabVIEW so that you can take full advantage of its features, including clusters, globals, locals and attribute nodes. It also teaches techniques to reduce memory requirements, optimize execution speed and build the highest performance, most efficient VIs and organize project development. Participants will be able to: create block diagrams that are easier to understand, increase the execution speed of a VI, minimize array data space, read and write binary data files, use clusters to efficiently handle data and programmatically set and read the attributes of graphical user interface (GUI) controls.

These courses are Directorate funded. Submit all training requests to your training coordinator by Aug. 31. For further information, call Kimela Ouakil, x66-5087.

Back To School Shopping Trip to Jamaica, NY

Saturday, Aug. 22, 1998

Tickets: $35. For information contact: Sandra Banks x2526, Rebecca Beach x1559 or Lisa Johnson, x1151.

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